

Annual Peak-Flow Frequency Analysis

For more information on the contents of this documentation, see Kessler and others (2013).

Streamgauge number and name:

05077500 Clearwater River near Leonard, Minn.

Peak-flow information:

Number of systematic peak flows in record	13
Systematic period begins	1935
Systematic period ends	1947
Length of systematic record	13
Years without information	0
Number of historical peak flows in record	0

Frequency analysis options:

Method	Bulletin 17B
Skew option	STATION SKEW
Low-outlier method	Bulletin 17B Grubbs-Beck test

Bulletin 17B systematic record analysis results:

Moments of the common logarithms of the peak flows:

	Standard		
Mean	deviation	Skewness	
2.4145	0.2301	-0.268	

Outlier criteria and number of peak flows exceeding:

Low	82.0	0
High	822.1	0

Bulletin 17B Final analysis results:

Moments of the common logarithms of the peak flows:

	Standard	
Mean	deviation	Skewness
2.4145	0.2301	-0.268

Annual frequency curve at selected exceedance probabilities:

Exceedance probability	Peak estimate	Lower-95 level	Upper-95 level
0.9950	58.1	25.8	89.4
0.9900	68.3	32.7	102.0
0.9500	104.0	60.6	143.0
0.9000	130.0	82.5	172.0
0.8000	168.0	117.0	215.0
0.6667	211.0	157.0	269.0
0.5000	266.0	206.0	345.0
0.4292	292.0	228.0	384.0
0.2000	408.0	317.0	588.0
0.1000	504.0	383.0	784.0
0.0400	624.0	459.0	1,060.0
0.0200	713.0	512.0	1,290.0
0.0100	802.0	562.0	1,520.0
0.0050	890.0	611.0	1,770.0
0.0020	1,010.0	673.0	2,120.0

Peak-flow data used in the analysis:

Explanation of symbols and codes

K Peak affected by regulation

Water	Peak	Peak-flow
year	flow	code
1935	100	K
1936	275	K
1937	236	K
1938	347	K
1939	115	K
1940	266	K
1941	237	K
1942	198	K
1943	382	K
1944	174	K
1945	435	K
1946	399	K
1947	655	K